



THE SCIENCE OF READYSM

BIO LAB INC FACILITY FIRE

Westlake, LA

Preliminary Daily Air Monitoring Summary

September 3, 2020

Project #113436

1.0 Introduction

On August 27, 2020 at approximately 11:00 Central Standard Time (CST), BioLab Inc requested that CTEH® provide air monitoring and analytical air sampling support in response to a facility fire at the Westlake, LA facility. CTEH® arrived on-site on August 27, 2020 and began real-time air monitoring at 16:00 CST. Analytical air samples for chlorine and volatile organic compounds (VOCs) were deployed throughout the community, at upwind and downwind locations. This report summarizes real-time air monitoring data collected in the work area and community from September 2, 2020 06:00 CST to September 3, 2020 06:00 CST.

2.0 Air Monitoring and Sampling Methods

CTEH® developed and implemented an Air Sampling and Analysis Plan (SAP) to document and quantify the potential release of fugitive emissions from the incident. Real-time air monitoring was conducted in accordance with three plans outlined in the SAP: Community Monitoring, Work Area Monitoring, and Site Assessment Monitoring. Community Monitoring was conducted in areas beyond the work area including residential areas and businesses. Work Area Monitoring was conducted in areas where workers were actively involved in response operations. Unlike Community and Work Area Monitoring, Site Assessment Monitoring does not necessarily represent ambient air monitoring near breathing zone level. Site Assessment may involve a variety of different monitoring tasks intended to provide information that may help to delineate the nature and extent of the release.

CTEH personnel conducted real-time air monitoring in the community and work area for chlorine (Cl₂), atmospheric flammability measured as the percentage of the lower explosive limit (%LEL), nitrogen dioxide (NO₂), oxygen (O₂), particulate matter (PM_{2.5} and PM₁₀), sulfur dioxide (SO₂), and volatile organic compounds (VOCs), using handheld instruments including RAE Systems MultiRAEs, Gastec colorimetric detection tubes, AM520s and AM510s, as well as remote-telemetry AreaRAEs.

All instrumentation was calibrated at least once per day or per manufacturer's recommendations. Roaming air monitoring was generally performed in work areas in the presence of workers performing/supporting mitigation and remediation operations with handheld instruments.

3.0 Air Monitoring Results

Attachment A provides maps of the incident location and the locations of handheld air monitoring locations in the community and work area. **Table 1** summarizes the results of handheld air monitoring.

Table 1: Handheld Real-Time Air Monitoring Results

Location Category	Analyte	Instrument	# of Readings	# of Detections	Range*
Community	Cl ₂	MultiRAE	45	0	< 0.1 ppm
	%LEL	MultiRAE	23	0	< 1 ppm
	NO ₂	Gastec #9L	3	0	< 0.1 ppm
		MultiRAE	23	0	< 0.1 ppm
	PM _{2.5}	AM510	23	23	0.013 – 0.026 mg/m ³
		AM520	22	22	0.021 – 0.065 mg/m ³
	SO ₂	Gastec #5Lb	3	0	< 0.01 ppm
		MultiRAE	23	0	< 0.1 ppm
	VOCs	MultiRAE	45	0	< 0.1 ppm
Work Area Monitoring	Cl ₂	MultiRAE	60	3	0.2 – 1.0 ppm
	%LEL	MultiRAE	29	0	< 1 %
	NO ₂	Gastec #9L	7	0	< 0.1 ppm
	PM ₁₀	AM510	1	1	0.023 mg/m ³
	PM _{2.5}	AM510	4	4	0.015 – 0.054 mg/m ³
		AM520	29	29	0.010 – 0.221 mg/m ³
	SO ₂	Gastec #5Lb	3	3	0.0.125 – 0.125 ppm
		MultiRAE	57	2	0.1 – 12.3 ppm
	VOCs	MultiRAE	45	1	0.4 ppm
Site Assessment	SO ₂	MultiRAE	5	4	3.2 – >20.0 ppm

* If no detection was observed, the instrument detection limit preceded by a "<" symbol is listed. These data have not undergone QA/QC and should be considered preliminary at this time. †Volatile organic compounds.

4.0 Analytical Air Sampling Methodology

During this reporting period, CTEH® also deployed analytical air samples in four distinct locations in the community. Evacuated canister (Minican™) samplers were regulated to continuously collect air over a 24-hour period for analysis for VOCs by EPA method TO-15. Additionally, sampling pumps were deployed to collect chlorine samples following method NIOSH 6011. A map indicating the location of these analytical air sampling stations is provided in **Attachment B. Table 2**, below, presents a summary of the cumulative summary of analytical air samples for the response.

Table 2: Cumulative Analytical Air Samples

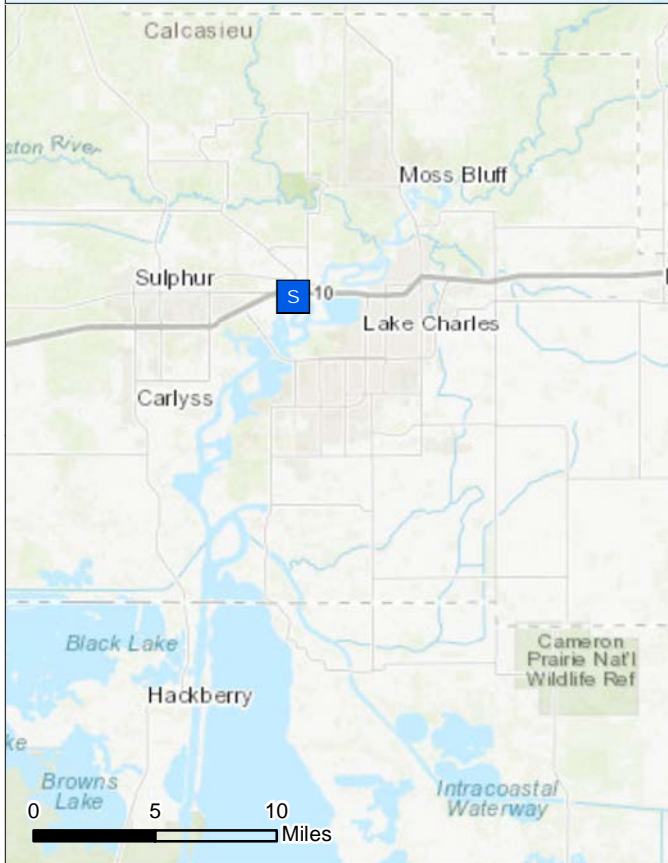
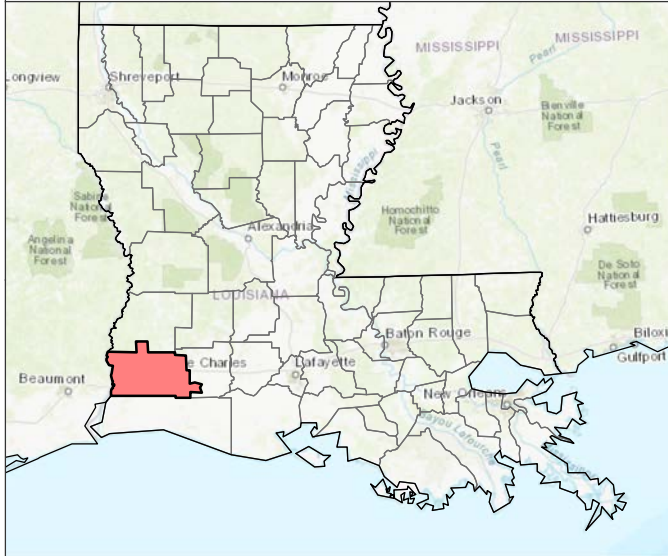
Analysis	Count of Samples Deployed	Count of Samples Collected	Count of Results Received from Lab
SCK (Chlorine NIOSH 6011)	48	48	0
Minican (VOC TO-15 +TICS)	28	28	0

5.0 Weather Conditions

Attachment C contains wind roses depicting wind speed and direction for this reporting period. Data were acquired from the Chennault International meteorological stations. Chennault International Station is located on 3650 Sen J Bennett Johnston Ave., approximately 10 miles southeast of the incident site.

Attachment A

CTEH Air Monitoring Locations



S Site Location

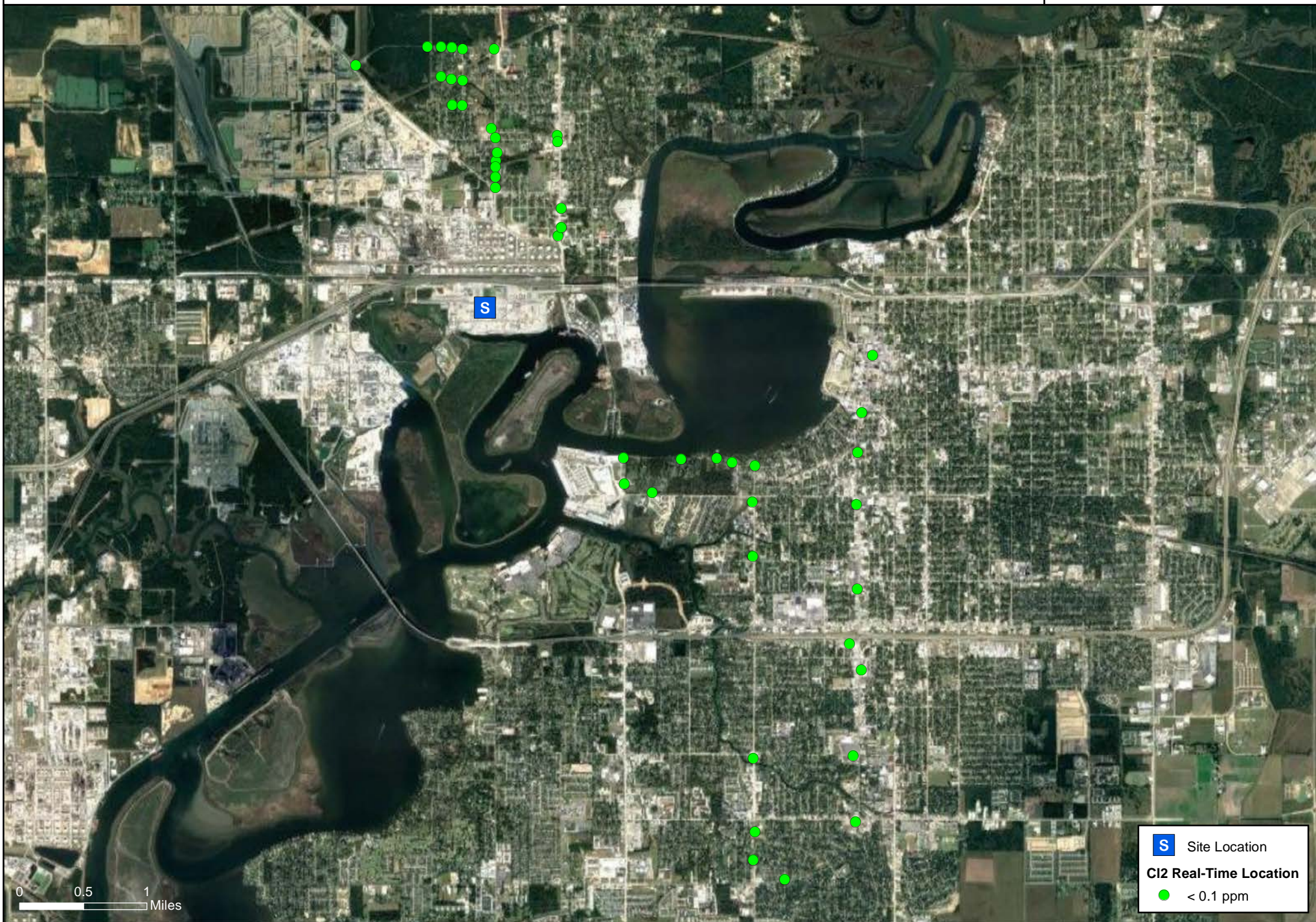


Handheld Real-Time Community Monitoring Locations (Cl₂)

BioLab Inc Facility Fire | Westlake, LA | 9/2/2020 06:00 - 9/3/2020 06:00 CST



Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu



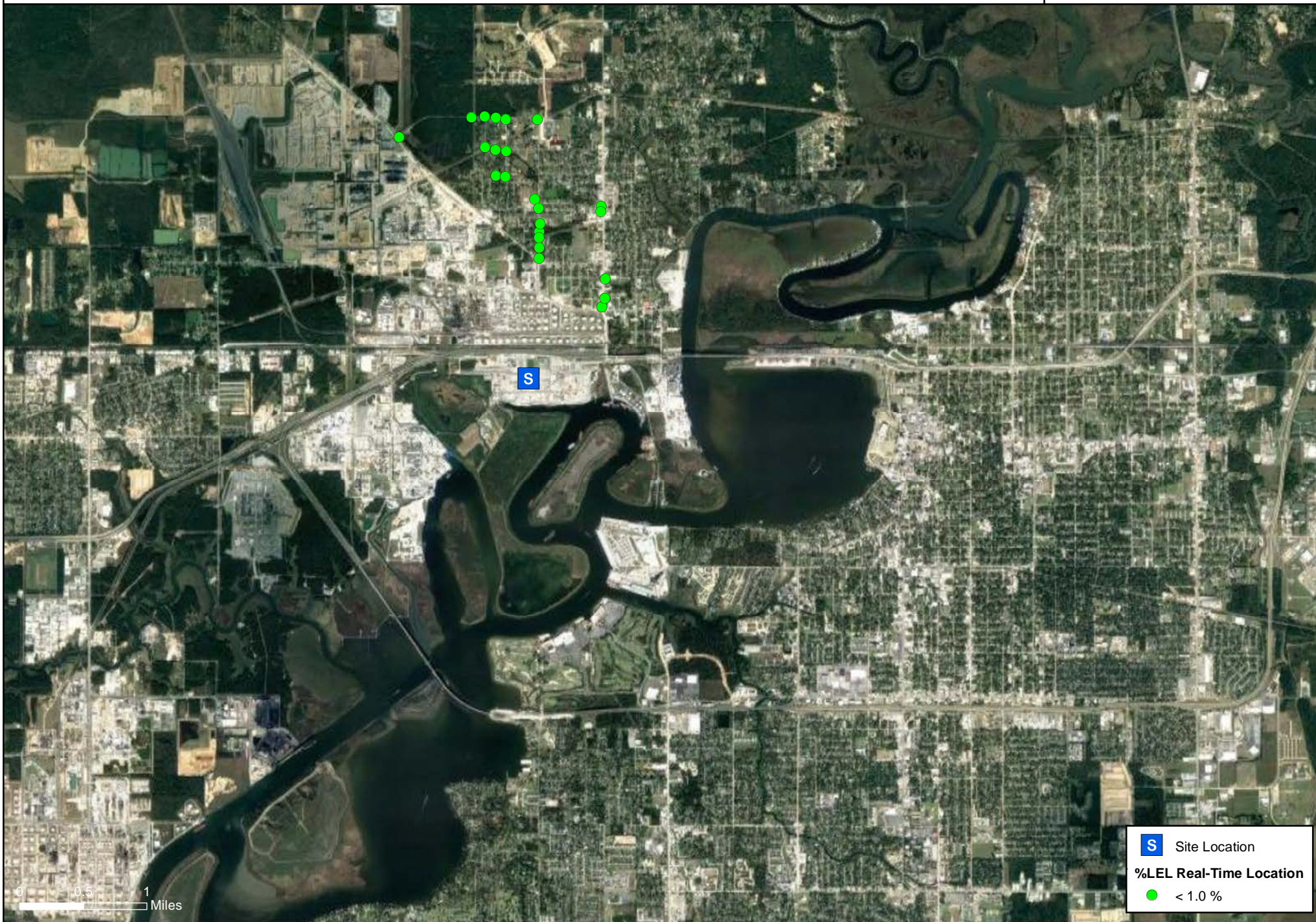


Handheld Real-Time Community Monitoring Locations (%LEL)

BioLab Inc Facility Fire | Westlake, LA | 9/2/2020 06:00 - 9/3/2020 06:00 CST



Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu





Handheld Real-Time Community Monitoring Locations (NO₂)

BioLab Inc Facility Fire | Westlake, LA | 9/2/2020 06:00 - 9/3/2020 06:00 CST

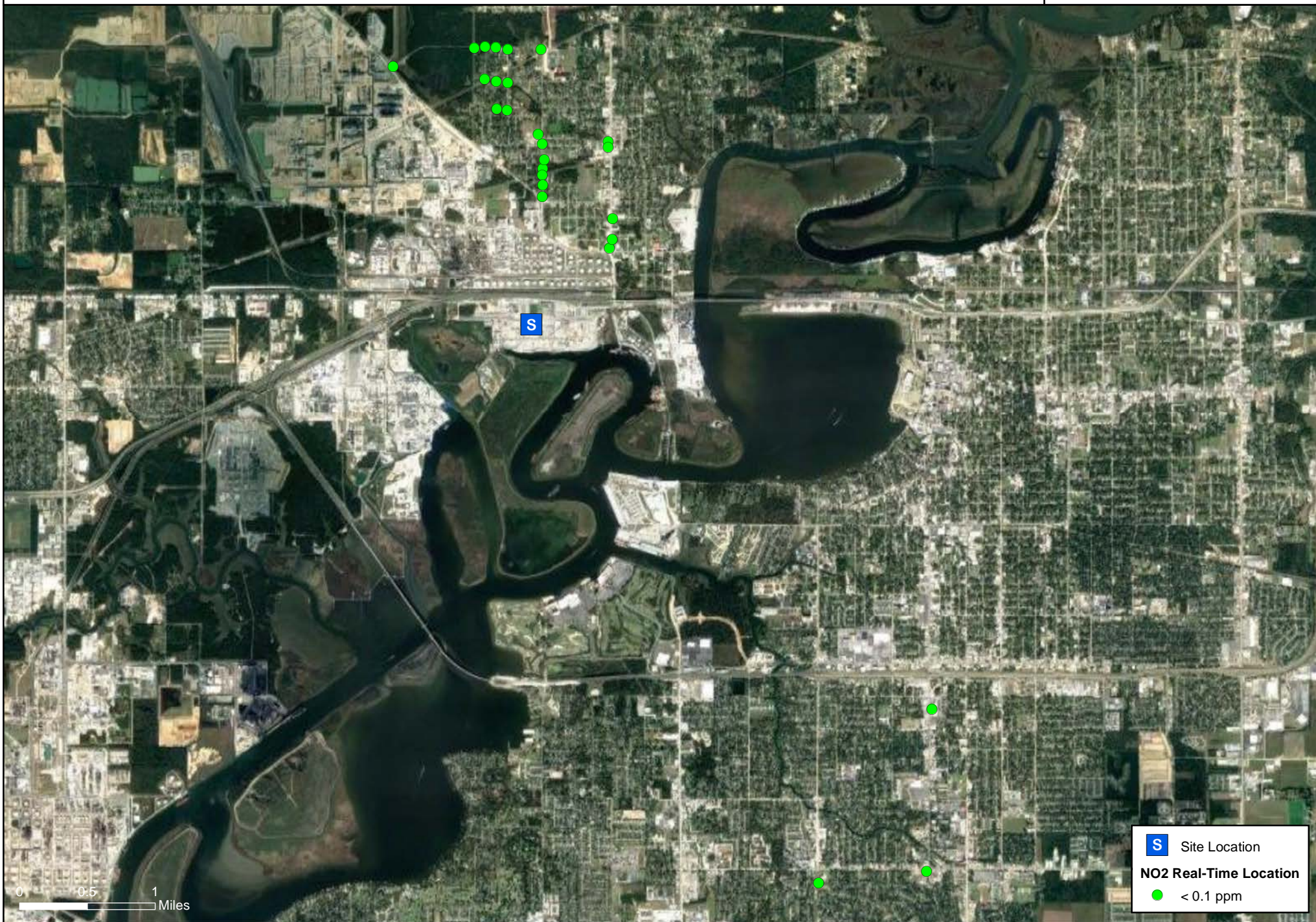


Project:113436

Client: BioLab

City: Westlake, LA

Parish: Calcasieu



S Site Location

NO₂ Real-Time Location

● < 0.1 ppm



Handheld Real-Time Community Monitoring Locations (PM_{2.5})

BioLab Inc Facility Fire | Westlake, LA | 9/2/2020 06:00 - 9/3/2020 06:00 CST

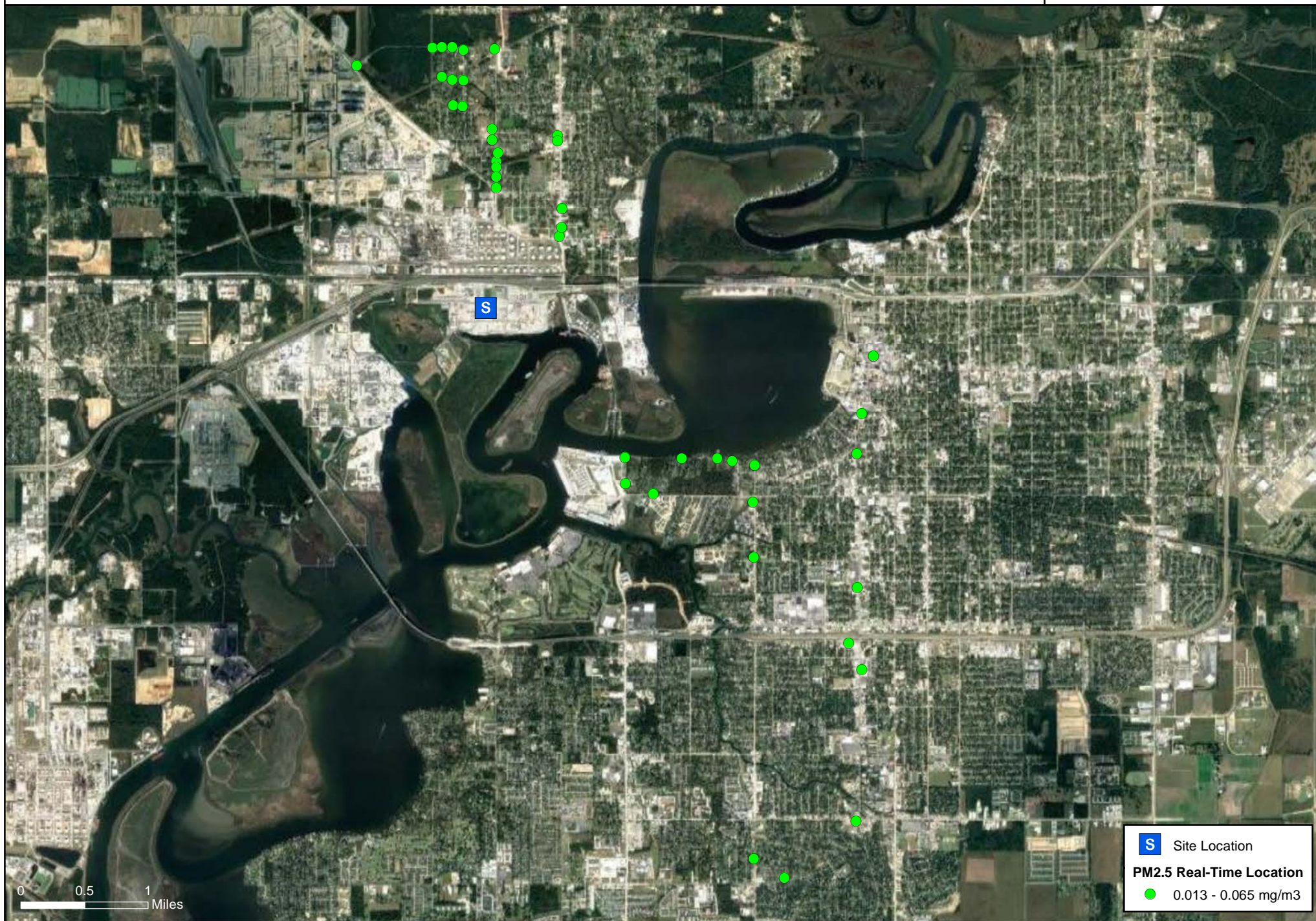


Project:113436

Client: BioLab

City: Westlake, LA

Parish: Calcasieu



S Site Location

PM2.5 Real-Time Location

● 0.013 - 0.065 mg/m3

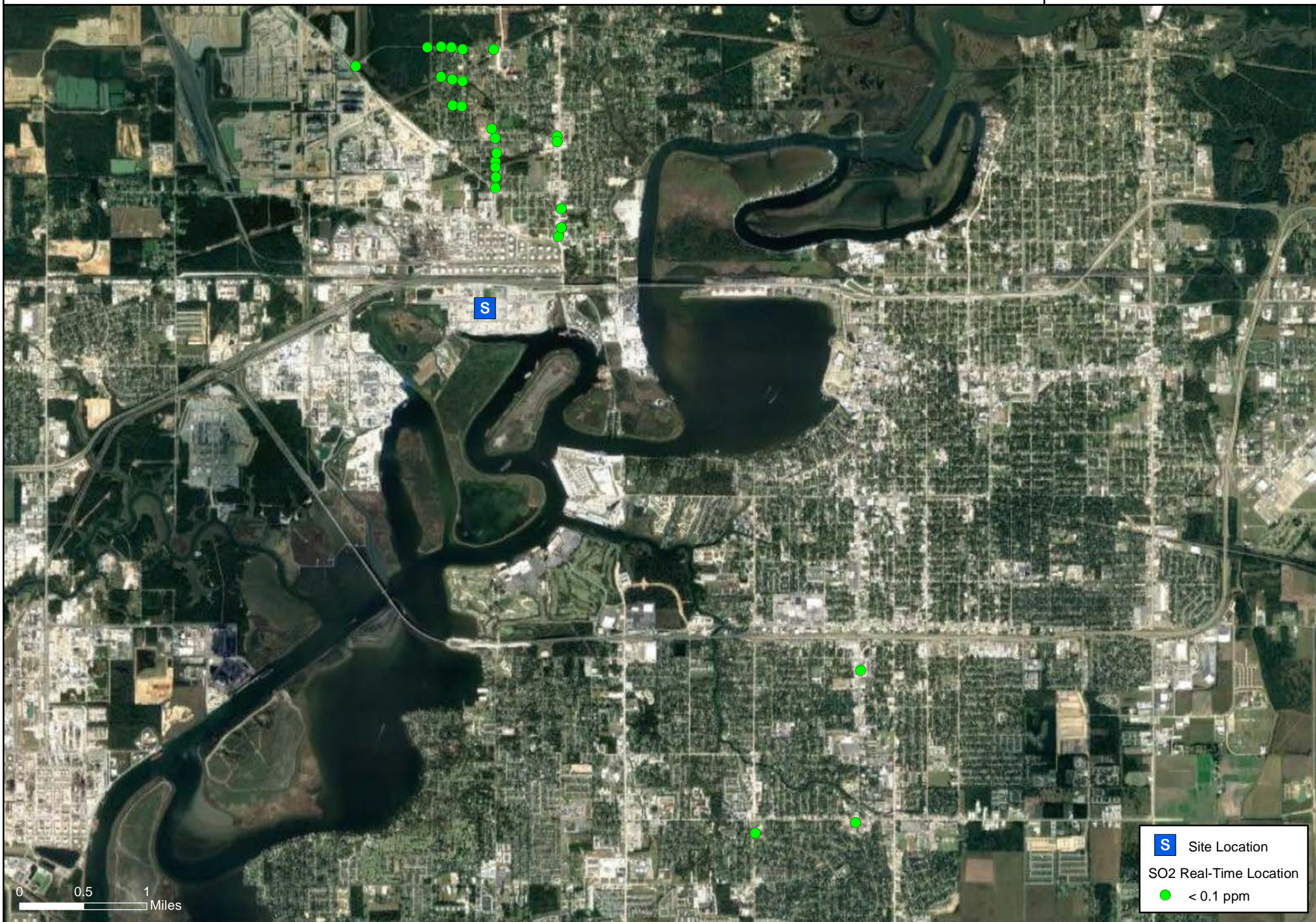


Handheld Real-Time Community Monitoring Locations (SO₂)

BioLab Inc Facility Fire | Westlake, LA | 9/2/2020 06:00 - 9/3/2020 06:00 CST



Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu



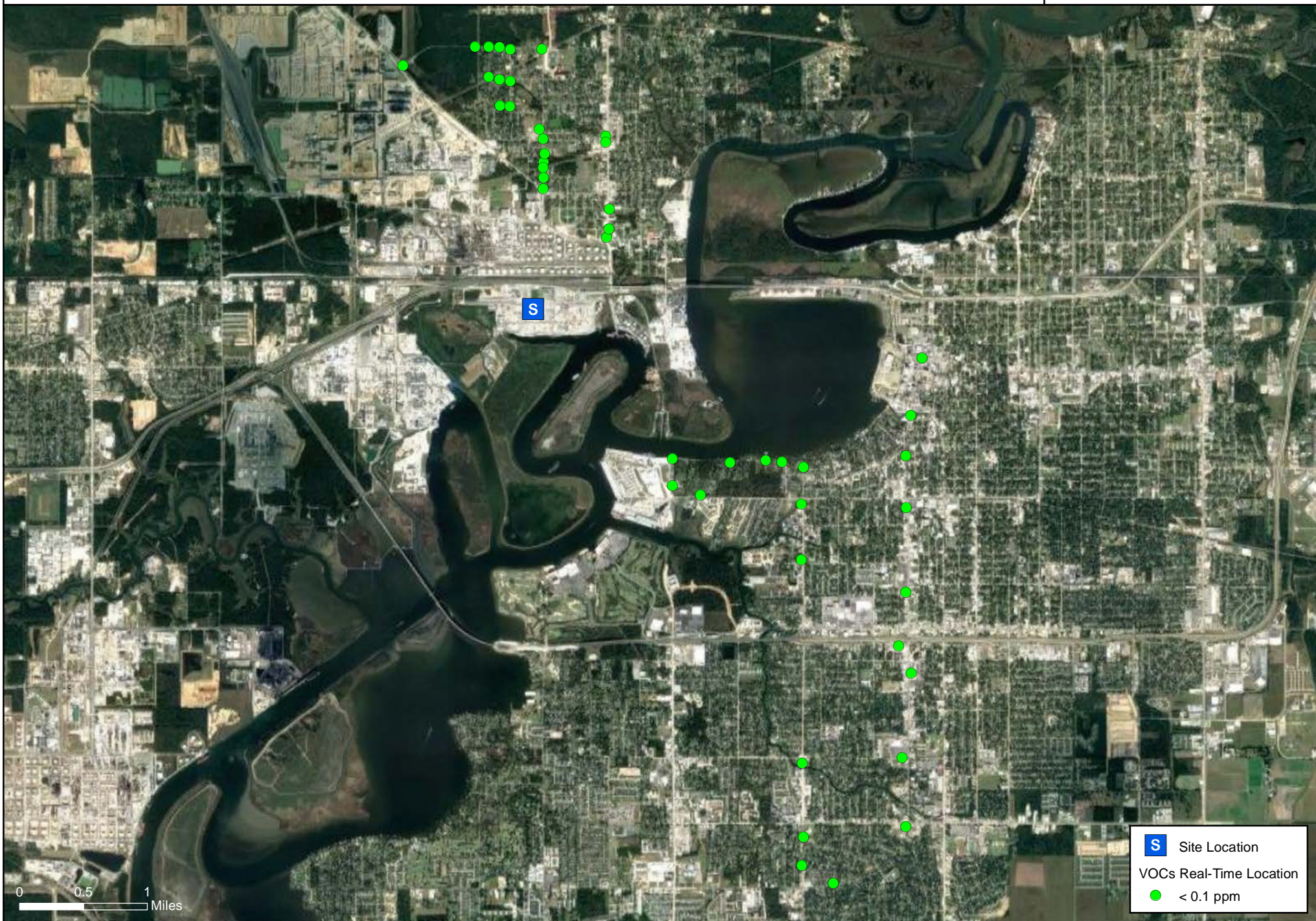


Handheld Real-Time Community Monitoring Locations (VOCs)

BioLab Inc Facility Fire I Westlake, LA | 9/2/2020 06:00 - 9/3/2020 06:00 CST



Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu



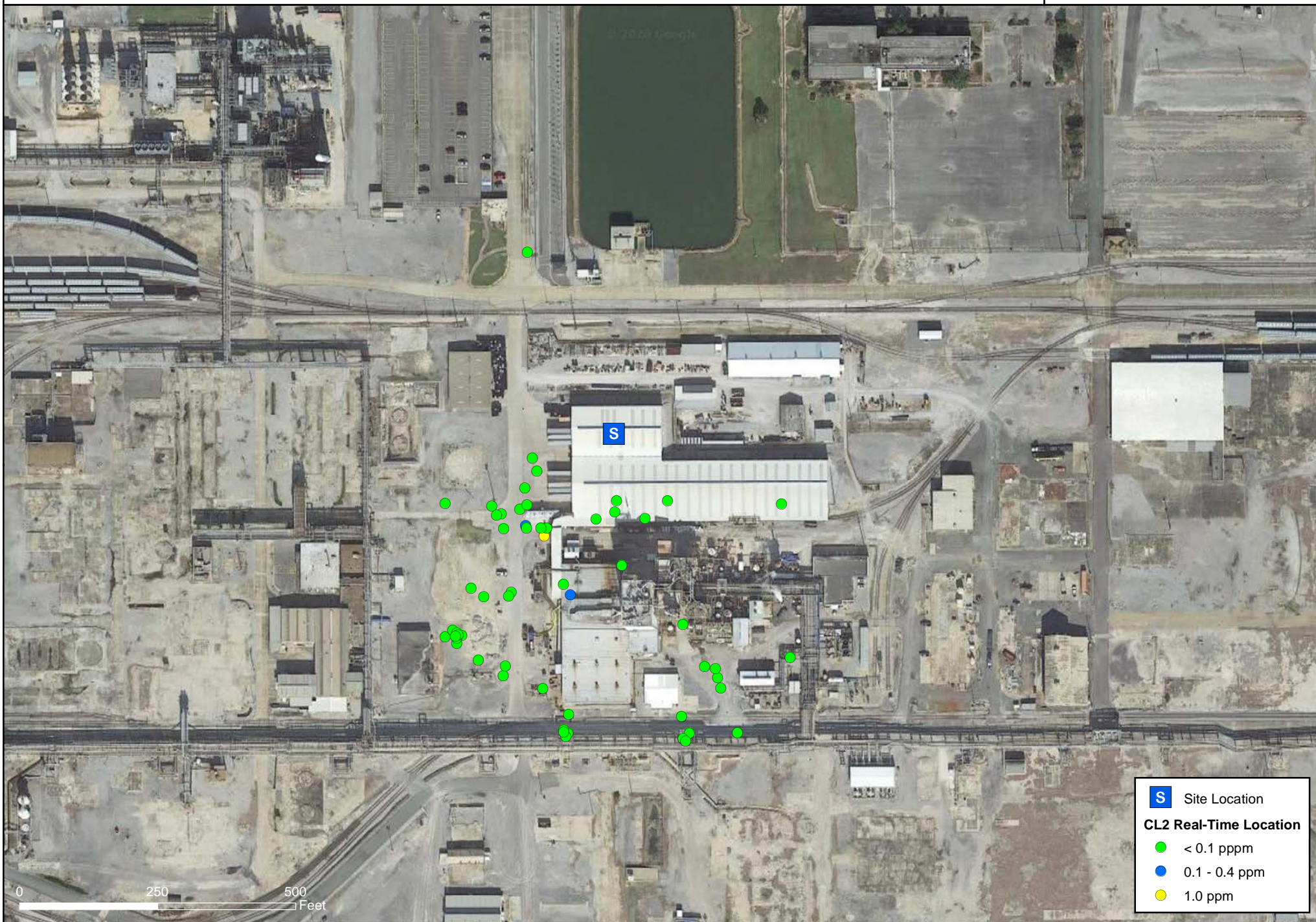


Handheld Real-Time Work Area Monitoring Locations (Cl₂)

BioLab Inc Facility Fire | Westlake, LA | 9/2/2020 06:00 - 9/3/2020 06:00 CST



Project:113436
Client: BioLab
City: Westlake, LA
Parish: Calcasieu





Handheld Real-Time Work Area Monitoring Locations (%LEL)

BioLab Inc Facility Fire | Westlake, LA | 9/2/2020 06:00 - 9/3/2020 06:00 CST



Project:113436

Client: BioLab

City: Westlake, LA

Parish: Calcasieu





Handheld Real-Time Work Area Monitoring Locations (NO₂)

BioLab Inc Facility Fire | Westlake, LA | 9/2/2020 06:00 - 9/3/2020 06:00 CST

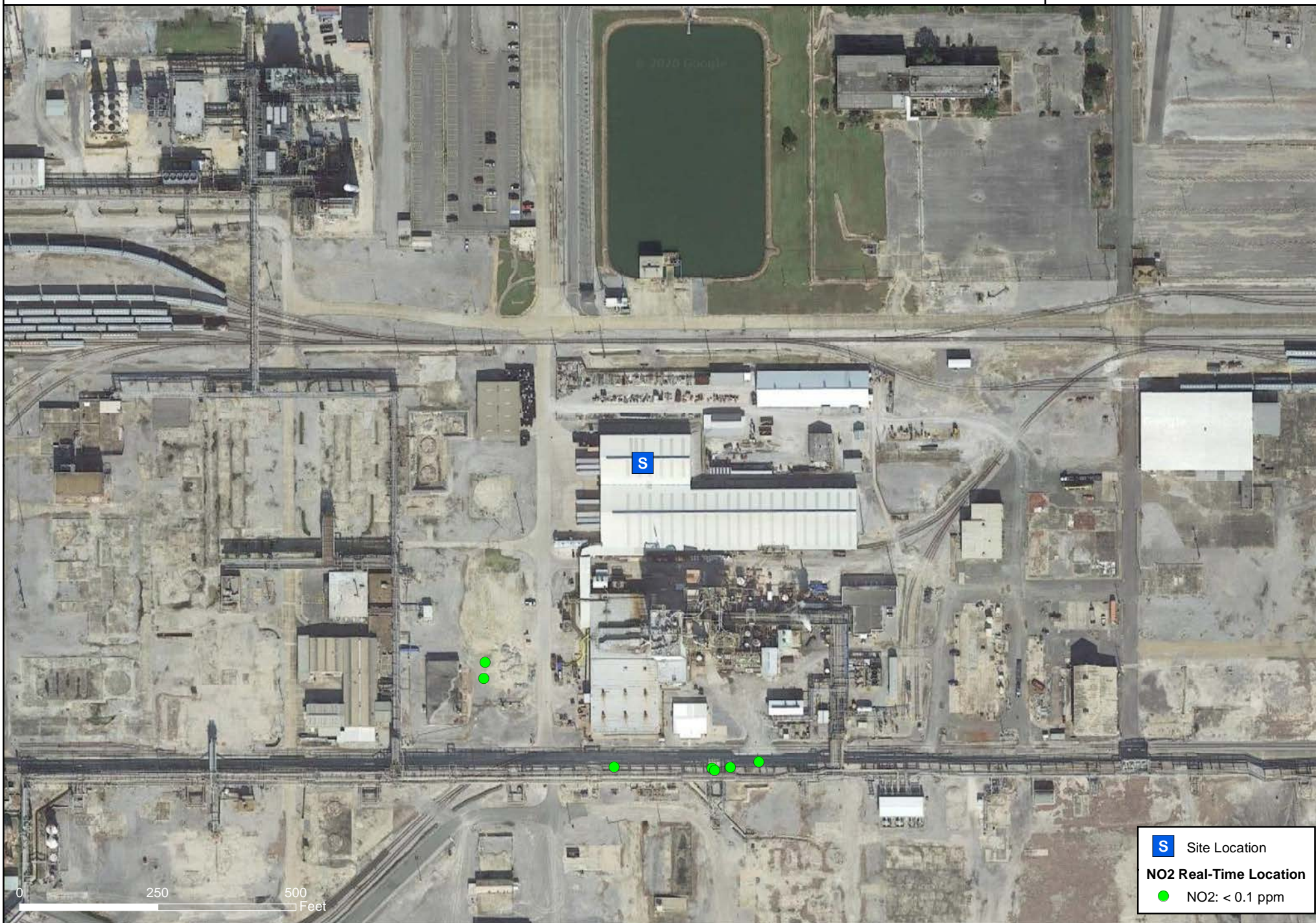


Project:113436

Client: BioLab

City: Westlake, LA

Parish: Calcasieu



S Site Location
NO2 Real-Time Location
● NO2: < 0.1 ppm



Handheld Real-Time Work Area Monitoring Locations (PM₁₀)

BioLab Inc Facility Fire | Westlake, LA | 9/2/2020 06:00 - 9/3/2020 06:00 CST

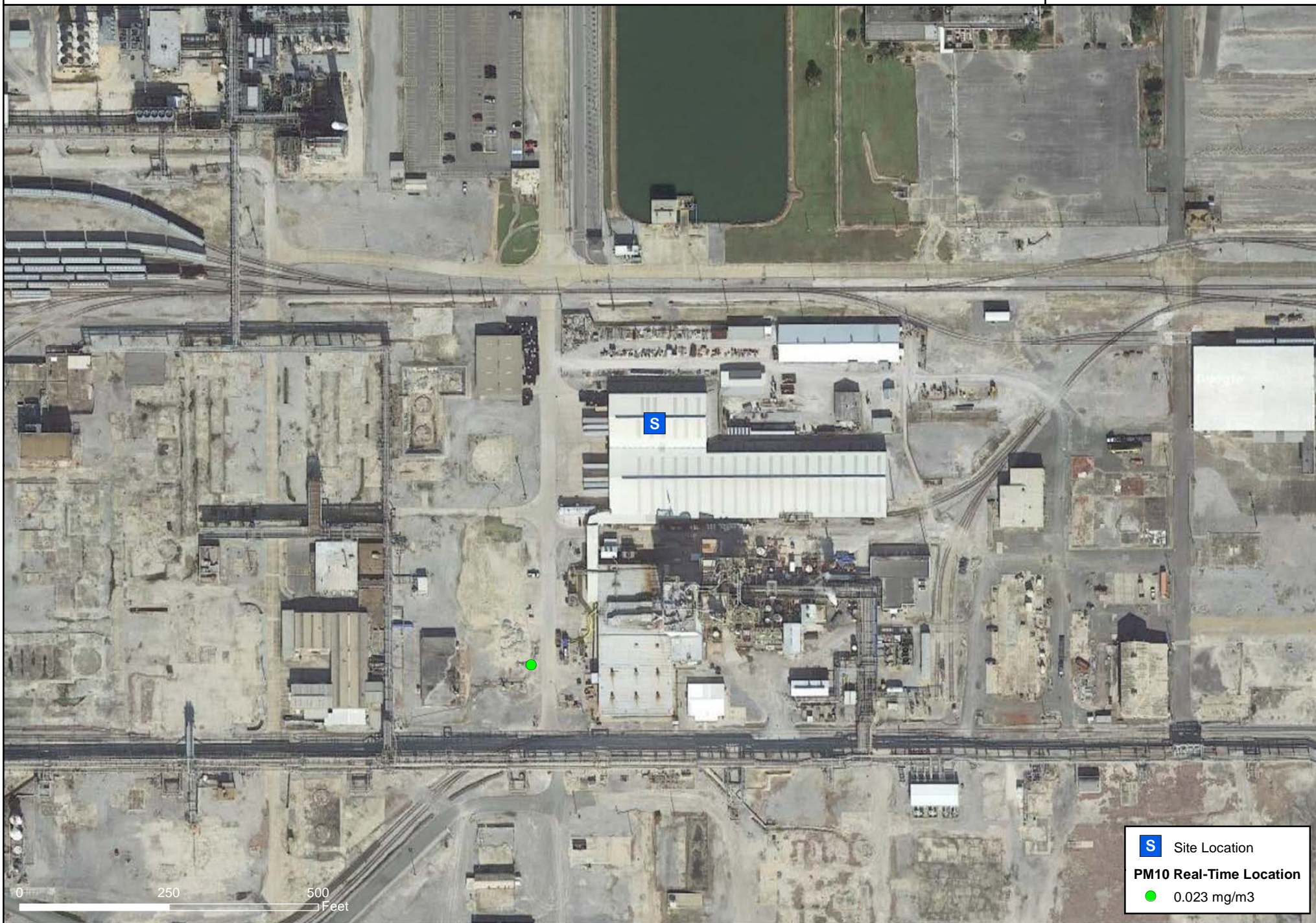


Project:113436

Client: BioLab

City: Westlake, LA

Parish: Calcasieu



S Site Location

PM₁₀ Real-Time Location

● 0.023 mg/m³



Handheld Real-Time Work Area Monitoring Locations (PM_{2.5})

BioLab Inc Facility Fire | Westlake, LA | 9/2/2020 06:00 - 9/3/2020 06:00 CST



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City: Westlake, LA
Parish: Calcasieu





Handheld Real-Time Work Area Monitoring Locations (SO₂)

BioLab Inc Facility Fire | Westlake, LA | 9/2/2020 06:00 - 9/3/2020 06:00 CST

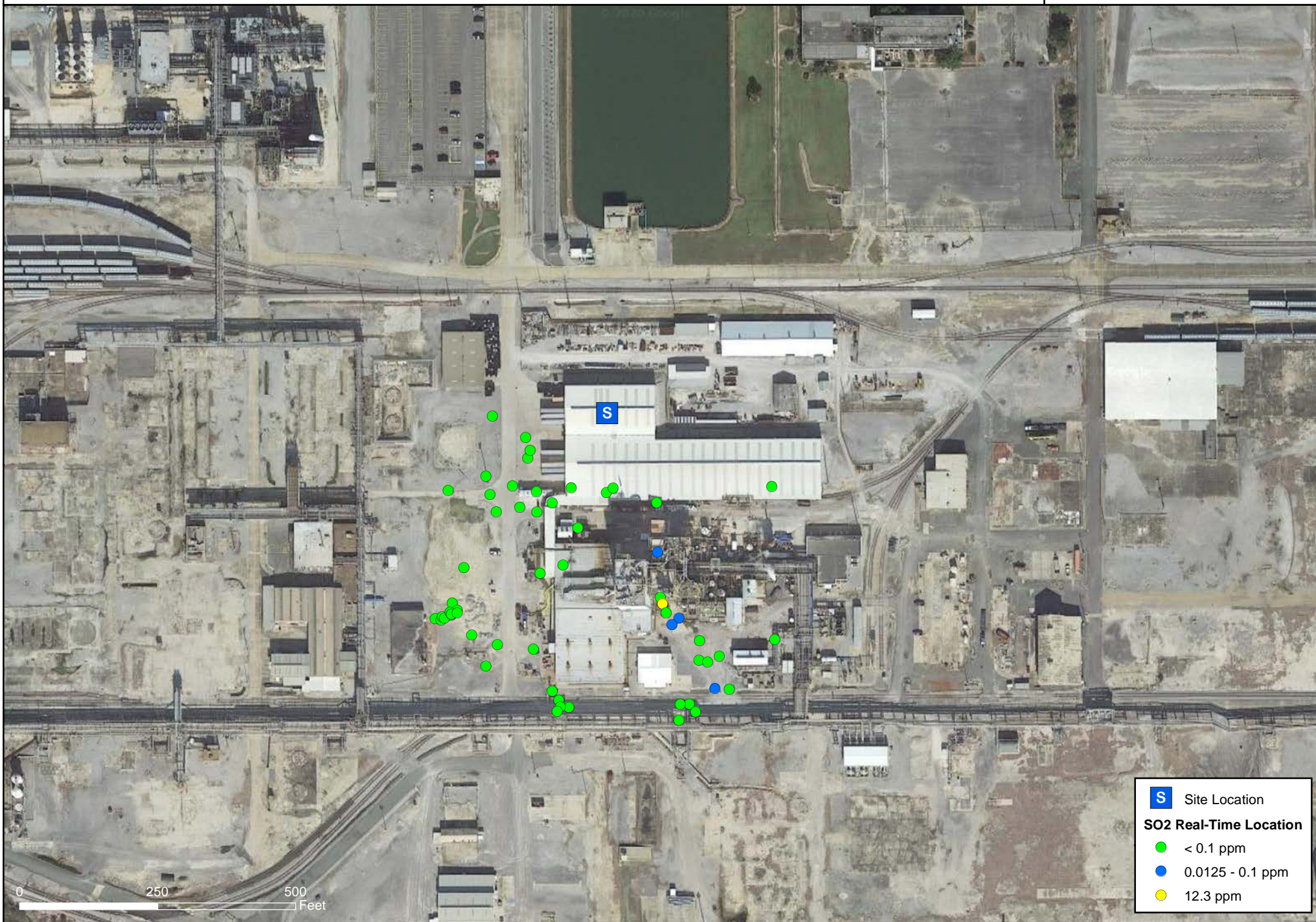


Project:113436

Client: BioLab

City: Westlake, LA

Parish: Calcasieu





Handheld Real-Time Work Area Monitoring Locations (VOCs)

BioLab Inc Facility Fire I Westlake, LA | 9/2/2020 06:00 - 9/3/2020 06:00 CST

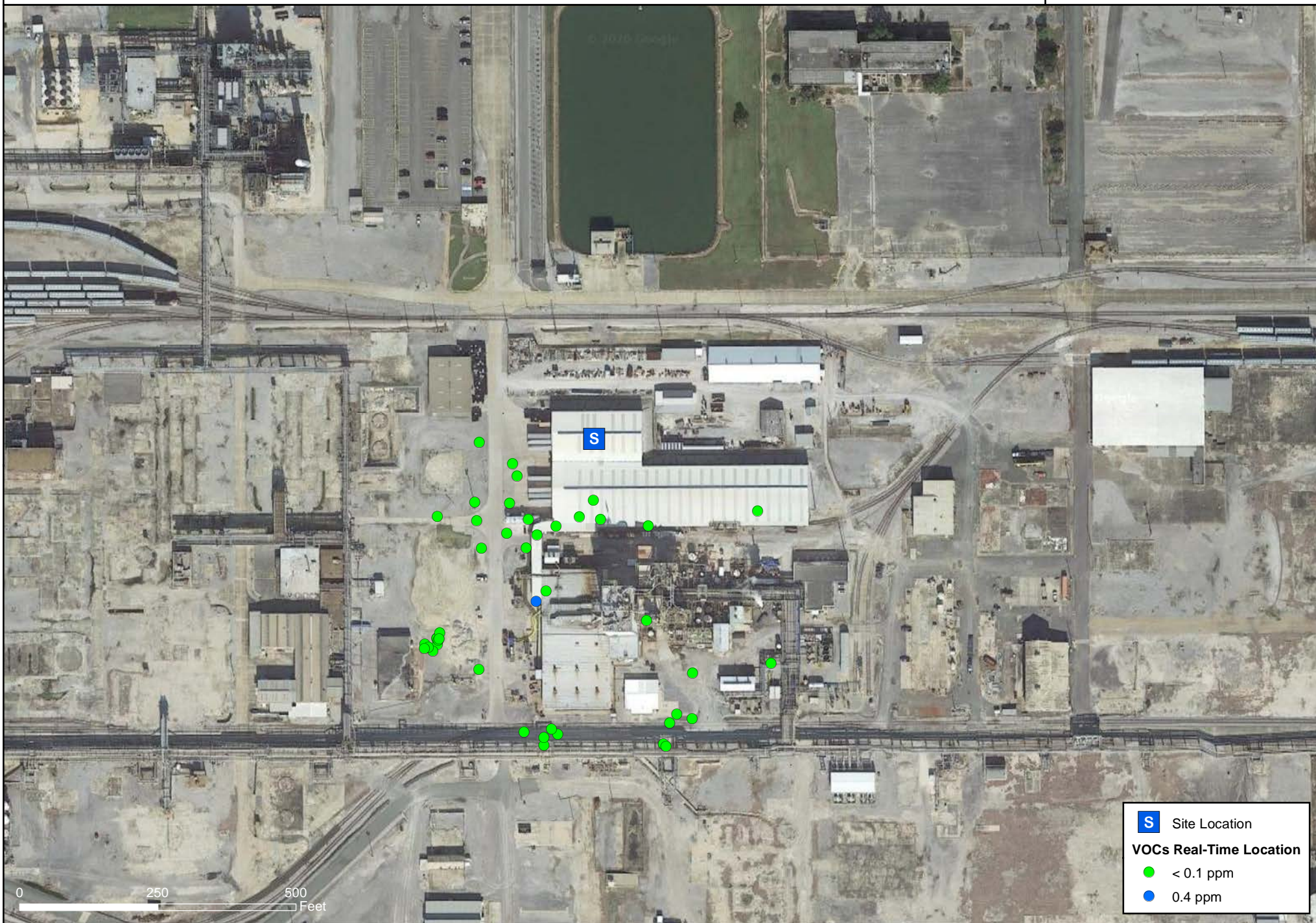


Project:113436

Client: BioLab

City: Westlake, LA

Parish: Calcasieu



COORDINATE SYSTEM: NAD 1983 UTM Zone 15N DATUM: North American 1983

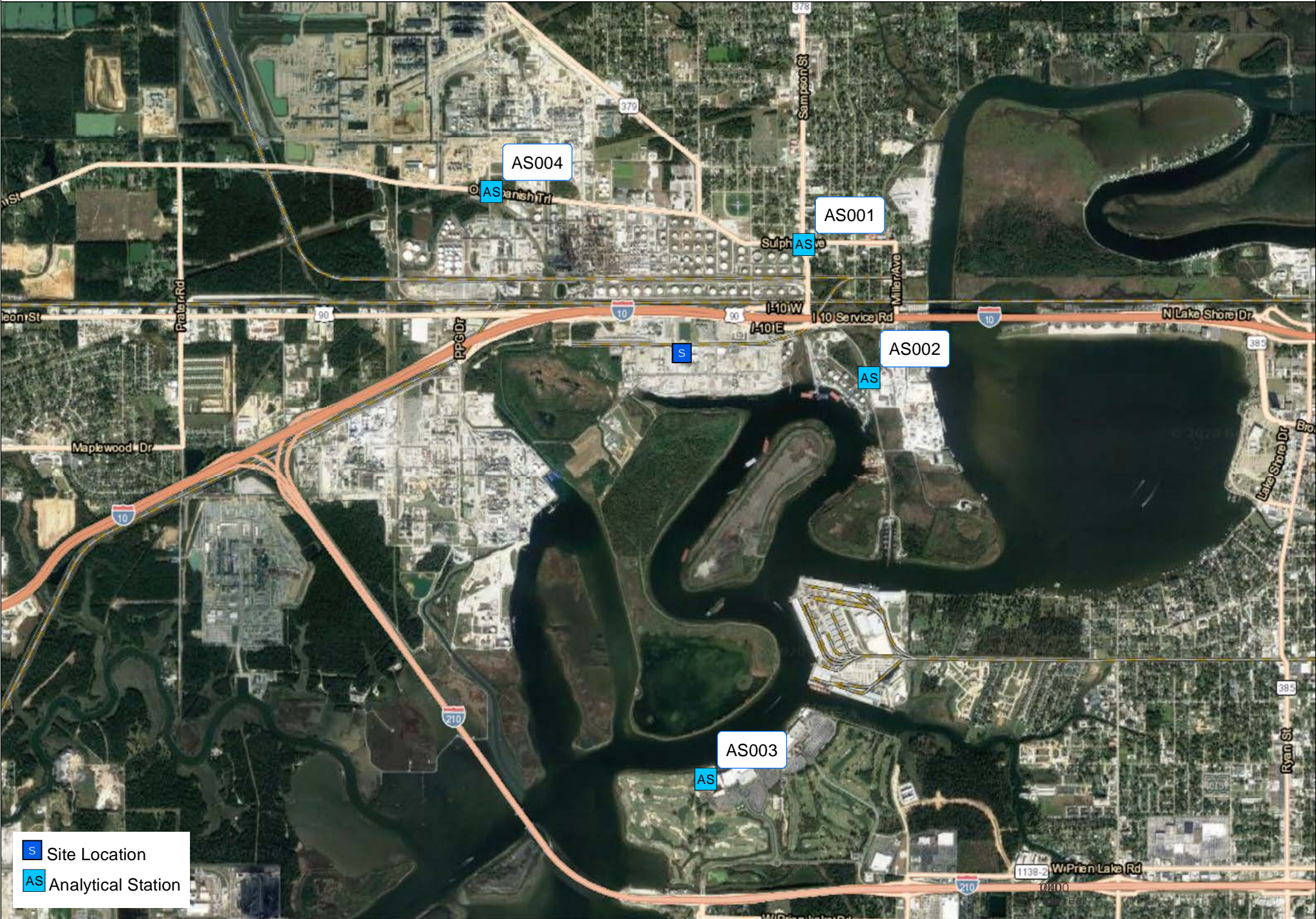
LAST UPDATED: 9/3/2020 7:16:44 AM



- S Site Location
- SO₂ Real-Time Location**
- < 0.1 ppm
- 3.2 - 6.8 ppm
- 8 ppm
- > 20 ppm

Attachment B

Analytical Air Sampling Locations



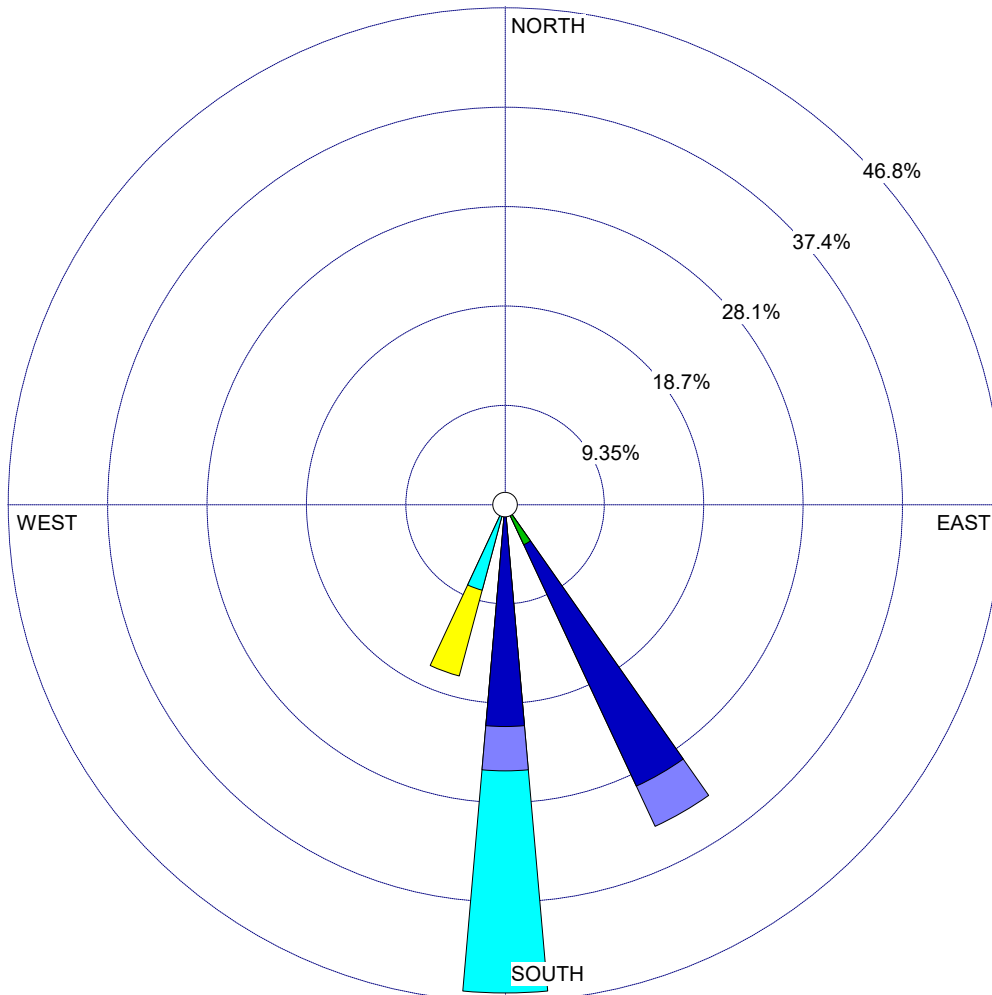
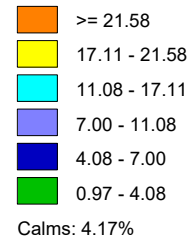
Attachment C

Meteorological Conditions

WIND ROSE PLOT:

Station #CHENNAULT INTL STATION

DISPLAY:

Wind Speed
Direction (blowing from)WIND SPEED
(MPH)

COMMENTS:

DATA PERIOD:

Start Date: 9/2/2020 - 06:00
End Date: 9/3/2020 - 05:00

COMPANY NAME:

MODELER:

CALM WINDS:

4.17%

TOTAL COUNT:

24 hrs.

AVG. WIND SPEED:

8.75 MPH

DATE:

9/3/2020

PROJECT NO.:

113436